

## PATENT ABSTRACTS OF JAPAN

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(71)Applicant : SUN TEC KK

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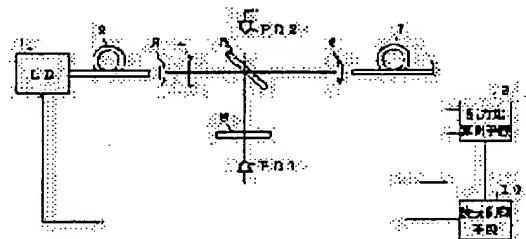
(72)Inventor : TEI DAIKOU  
MEKATA NAOYUKI

## (54) LASER BEAM SOURCE DEVICE

## (57)Abstract:

PROBLEM TO BE SOLVED: To provide with a very simple constitution a laser beam source device wherein emission wavelength is accurately controlled.

SOLUTION: The beam emitted from a laser diode 1 is made incident on a beam splitter 5, and its reflected beam is supplied to an optical bandpass filter 8. The beam which transmits the optical bandpass filter 8 is photodetected with a photodiode PD1. The beam reflected on the optical bandpass filter 8 and transmitting the beam splitter 5 is photodetected with a photodiode PD2. The emission wavelength of a laser beam source is controlled so that the photodetection ratio between the photodiodes PD1 and PD2 is constant, so that a laser beam of accurate wavelength is emitted.



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(71)Applicant : NORTHERN TELECOM LTD

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(72)Inventor : VILLENEUVE BERNARD

KIM HYUNG B

(30)Priority

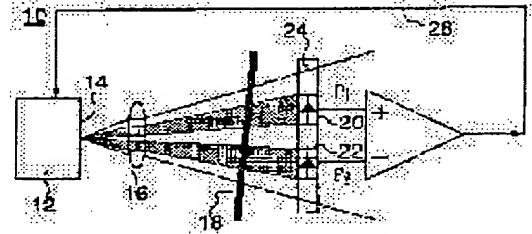
Priority number : 96 680284 Priority date : 11.07.1996 Priority country : US

## (54) WAVELENGTH MONITOR CONTROLLER FOR WAVELENGTH DIVISION MULTIPLEX OPTICAL TRANSMISSION SYSTEM

## (57)Abstract

**PROBLEM TO BE SOLVED:** To provide a small sized wavelength monitor controller which is integrated in a small sized semiconductor laser package preferably and applicable to a wavelength division multiplex optical transmission system.

**SOLUTION:** A non-collimate light emitted from a laser emission/divergence source 12 transmits through a filter element 18 and directed to two photodetectors 20, 22 located apart closely. In order to make the wavelength stable, different outputs from the two photodetectors 20, 22 are used for a feedback loop to make the wavelength of the laser emission divergence source 12 stable to a desired object wavelength. Since a wavelength transmission rate of a Fabry-Perot etalon depends on an incident angle of an incident beam, various wavelength bands emitted from the laser stimulation divergence source 12 are converted into different transmission losses to the two photodetectors 20, 22 and then a wavelength change is detected as a different power change.



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